



**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2017-0491; Directorate Identifier 2016-SW-020-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Sikorsky Aircraft Corporation Helicopters**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for Sikorsky Aircraft Corporation (Sikorsky) Model S-76A, S-76B, S-76C, and S-76D helicopters.

This proposed AD would require inspecting the main rotor (M/R) servo pushrod (pushrod) assembly and applying slippage marks. This proposed AD is prompted by an accident of a Sikorsky Model S-76C helicopter caused by a failed pushrod assembly. The proposed actions are intended to prevent an unsafe condition on these products.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Docket: Go to <http://www.regulations.gov>. Follow the online instructions for sending your comments electronically.
- Fax: 202-493-2251.

- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.

- Hand Delivery: Deliver to the “Mail” address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0491; or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the economic evaluation, any comments received, and other information. The street address for the Docket Operations Office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed rule, contact Sikorsky Aircraft Corporation, Customer Service Engineering, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S or 203-416-4299; email: [wcs\\_cust\\_service\\_eng.gr-sik@lmco.com](mailto:wcs_cust_service_eng.gr-sik@lmco.com). You may review the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177.

**FOR FURTHER INFORMATION CONTACT:** Blaine Williams, Aerospace Engineer, Boston Aircraft Certification Office, Engine & Propeller Directorate, 1200 District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7161; email [blaine.williams@faa.gov](mailto:blaine.williams@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document.

The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

### **Discussion**

We propose to adopt a new AD for Sikorsky Model S-76A, S-76B, S-76C, and S-76D helicopters with a serial number up to and including 761075 and with an M/R pushrod assembly part number (P/N) 76400-00034-059, 76400-00014-074, 76400-00014-076, or 76400-00014-077 installed. This proposed AD would not affect the requirements of AD 2015-19-51, which was issued as an emergency AD on September 14, 2015, and published in the Federal Register on October 26, 2015 (80 FR 65128). AD

2015-19-51 applies to Sikorsky Model S-76A, S-76B, S-76C, and S-76D helicopters with M/R pushrod assembly P/N 76400-00034-059 or tail rotor pushrod assembly P/N 76400-00014-071. AD 2015-19-51 requires inspecting the pushrod assemblies and jamnuts, and applying slippage marks across the pushrod tubes and jamnuts. This new proposed AD would apply to M/R pushrod assembly P/N 76400-00034-059 as well as M/R pushrod assemblies that are installed farther away from the servo actuators. Further flight testing has revealed additional data regarding the vibration environment of these M/R pushrod assemblies making it necessary to inspect the pushrod assemblies and jamnuts and apply torque to the jamnuts.

This proposed AD would require inspecting the M/R forward, aft, and lateral pushrod assembly control rods and jamnuts, applying torque to the jamnuts, and applying slippage marks across the control rods and jamnuts. This proposed AD is prompted by an accident of a Sikorsky Model S-76C helicopter caused by a loose jamnut and subsequent failure of the pushrod assembly. Separation of the control rod and the rod end was found. The proposed actions are intended to detect a loose jamnut and prevent failure of the pushrod assembly, loss of M/R flight control, and subsequent loss of control of the helicopter.

#### **FAA's Determination**

We are proposing this AD because we evaluated all known relevant information and determined that an unsafe condition exists and is likely to exist or develop on other helicopters of these same type designs.

#### **Related Service Information**

We reviewed Sikorsky S-76 Helicopter Alert Service Bulletin 76-67-58, Basic

Issue, dated November 19, 2015 (ASB), which specifies a one-time inspection of the M/R forward, aft, and lateral pushrod assemblies and jamnuts for proper installation, condition, and security. If a pushrod or jamnut does not meet criteria specified in the inspections, the ASB specifies replacing the assembly. The ASB also specifies applying torque to each jamnut and applying two slippage marks across each control rod and jamnut.

### **Proposed AD Requirements**

This proposed AD would require, within 300 hours time-in-service, inspecting each pushrod assembly by inspecting the position of the rod end in the control rod. If the lockwire passes through the inspection hole, this proposed AD would require replacing the pushrod assembly. If the lockwire does not pass through the inspection hole, this proposed AD would require inspecting the jamnut to determine seating position against the control rod and whether the jamnut can be turned with finger pressure. If the jamnut is not seated against the control rod or is loose, this proposed AD would require replacing the pushrod assembly. If the jamnut is seated against the control rod and cannot be turned with finger pressure, this proposed AD would require applying 140 inch-pounds of torque to the jamnut while using a pushrod tool. This proposed AD would also require, both for those pushrod assemblies that are replaced and for those that pass the inspections, applying two slippage marks across each control rod and jamnut.

### **Differences between this Proposed AD and the Service Information**

The Sikorsky ASB specifies returning any removed M/R pushrod assembly to Sikorsky. This proposed AD does not require returning any parts to Sikorsky.

## **Costs of Compliance**

We estimate that this proposed AD would affect 198 helicopters of U.S. Registry.

We estimate that operators may incur the following costs in order to comply with this AD. Labor costs are estimated at \$85 per work-hour. Inspecting the M/R pushrod assemblies would take about 2.2 work-hours for an estimated cost of \$187 per helicopter and \$37,026 for the U.S. fleet. Replacing an M/R pushrod assembly would take about 2 work-hours for a labor cost of \$170. Parts to replace M/R pushrod assembly P/N 76400-00034-059 would cost about \$2,411 for a total estimated replacement cost of \$2,581. Parts to replace M/R pushrod assembly P/N 76400-00014-074 would cost about \$2,224 for a total estimated replacement cost of \$2,394. Parts to replace M/R pushrod assembly P/N 76400-00014-076 would cost about \$2,488 for a total estimated replacement cost of \$2,658. Parts to replace M/R pushrod assembly P/N 76400-00014-077 would cost about \$2,414 for a total estimated replacement cost of \$2,584. It takes a minimal amount of time to apply the slippage marks for a negligible cost.

## **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds

necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by Reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**Sikorsky Aircraft Corporation:** Docket No. FAA-2017-0491; Directorate Identifier 2016-SW-020-AD.

#### **(a) Applicability**

This AD applies to Model S-76A, S-76B, S-76C, and S-76D helicopters, serial numbers up to and including 761075, with a main rotor (M/R) servo pushrod (pushrod) assembly part number (P/N) 76400-00034-059, 76400-00014-074, 76400-00014-076, or 76400-00014-077 installed, certificated in any category.

Note 1 to paragraph (a) of this AD: M/R pushrod P/N 76400-00034-059 is included in the Applicability section of AD 2015-19-51, Amendment 39-18300 (80 FR 65128, October 26, 2015). This AD does not affect AD 2015-19-51.

#### **(b) Unsafe Condition**

This AD defines the unsafe condition as a loose jamnut. This condition could result in failure of a pushrod assembly, loss of M/R flight control, and subsequent loss of control of the helicopter.



**(c) Comments Due Date**

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(d) Compliance**

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

**(e) Required Actions**

Within 300 hours time-in-service:

(1) Inspect the control rod of each pushrod assembly (control rod) to determine whether 0.020 inch diameter lockwire can pass through the inspection hole.

(i) If the lockwire passes through the inspection hole, before further flight, replace the pushrod assembly.

(ii) If the lockwire does not pass through the inspection hole, inspect the jamnut to determine whether it is seated against the control rod and whether it can be turned with finger pressure.

(A) If the jamnut is not seated against the control rod or can be turned with finger pressure, before further flight, replace the pushrod assembly.

(B) If the jamnut is seated against the control rod and cannot be turned with finger pressure, using a pushrod tool, apply 140 inch-pounds of torque to the jamnut.

(2) Apply two slippage marks across each control rod and jamnut as follows:

(i) Clean the area where a slippage mark is to be applied.

(ii) Apply two slippage marks across the control rod and jamnut, parallel and on opposite sides of each other. Each slippage mark must extend at least 0.5 inch onto the

control rod and must not cover the inspection hole. Figure 1 (Sheet 2) of Sikorsky S-76 Helicopter Alert Service Bulletin 76-67-58, Basic Issue, dated November 19, 2015, illustrates a slippage mark across a control rod and jamnut.

**(f) Alternative Methods of Compliance (AMOC)**

(1) The Manager, Boston Aircraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to: Blaine Williams, Aerospace Engineer, Boston Aircraft Certification Office, Engine & Propeller Directorate, 1200 District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7161; email [blaine.williams@faa.gov](mailto:blaine.williams@faa.gov).

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office before operating any aircraft complying with this AD through an AMOC.

**(g) Additional Information**

Sikorsky S-76 Helicopter Alert Service Bulletin 76-67-58, Basic Issue, dated November 19, 2015, which is not incorporated by reference, contains additional information about the subject of this AD. For service information identified in this AD, contact Sikorsky Aircraft Corporation, Customer Service Engineering, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S or 203-416-4299; email: [wcs\\_cust\\_service\\_eng.gr-sik@lmco.com](mailto:wcs_cust_service_eng.gr-sik@lmco.com). You may review a copy of information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177.

**(h) Subject**

Joint Aircraft Service Component (JASC) Code: 6700, Rotorcraft Flight Control.

Issued in Fort Worth, Texas, on May 17, 2017.

Scott A. Horn,

Acting Manager, Rotorcraft Directorate,  
Aircraft Certification Service.

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